



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,845	06/11/2001	Timo Aittola	639321.005(M)	1440
7590	03/02/2005		EXAMINER	
Anita Lomartra Cummings & Lockwood PO Box 1960 New Haven, CT 06509-9958			VU, THONG H	
			ART UNIT	PAPER NUMBER
			2142	

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/445,845

Applicant(s)

AITTOLA, TIMO

Examiner

Thong H Vu

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 and 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1-46, and 48 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-46, 48 have been considered but they are not persuasive to overcome the prior art.

- a. As per claim 1, Applicant argues the prior art does not teach or suggest "if reply indicates that a central file server, storing cached Internet information files, has said information file cached";

Examiner points out the prior art taught the server-client communication model [Yates, col 6 lines 28] wherein the request (i.e.: query) intended to be sent to the home server (i.e.: central file server) [Yates, col 24 lines 10-25; Internet, cache server, col 5 lines 58-67] and the intermediate server/router/node relays the request to the home server [Yates, col 11 lines 38-49]. It was clearly that the intermediate node (or the feeder) intercepts the request and identified it has intended to the home server which has said information cached.

- b. As per claim 18, Applicant argues the prior art does not teach or suggest "a first means for receiving request for an Internet file from said local cache server; a second means for deriving a query from an alphanumeric string received from said local cache server; and a third means for querying said central file server for said Internet information file using said query derived by said second means".

Examiner points out the prior art taught the router received the request from Internet information file from the cache or local server; the router has filter code which identified the request from the local or cache server [Yates, Fig 1, col 7 line 35-col 8 line

13]; and the router send/forward the request to the home server [Yates, col 9 line 54-col 10 line 3]. It was clear that the request including the source and destination addresses and file name which are represented as the alphabetic and numeric strings.

c. As per claim 18, Applicant argues the prior art does not teach or suggest "the central file server using database queries".

Examiner points out the prior art taught "database provider can arrange to have their documents placed into the network or server [Yates, col 17 lines 60-67].

Thus the prior art taught all limitations as claimed and the rejection is sustained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2,5,12-15,17-22,24,25,27,28,30-35,37-42,44-46,48 are rejected under 35.S.C. 102(e) as being anticipated by Yates et al [Yates 6,167,438].

4. As per claim 1, Yates discloses a method for serving requests for Internet information files in an Internet caching system, comprising the steps of:

receiving, at a local Internet cache server (i.e.: cache server 38), a user request from a user (i.e.: client 12-1) for an Internet information file Yates, a user requests

information via Internet including a plurality of cache server to a home server, col 5 line 55-col 6 line 45, Fig 1];

in response to the received request, making a query for said information file, if said information file has not been cached by said local server [Yates, the cache query, col 9 lines 1-7, col 10 lines 4-15, 53-63, col 11 lines 12-19; relay request, col 11 lines 37-49];

in response to a reply to said query, making a file request for said information file, wherein said, file request is directed to a feeder (i.e.: resource manager) means if said reply indicates that a central file server, storing cached Internet information files, has said information file cached [Yates, a resource manager, col 7 line 64-col 8 line 5; a single particular document is considered as being located at only one home server, col 6 line 62-col 7 line 8]; and

querying, from said feeder means in response to said file request, said central file server for said information file, in order to decrease the load on said central file server [Yates, off-load excess load at the home server, col 7 lines 17-27, load balancing, col 8 lines 29-33; col 13 line 57-col 14 line 7]. It was clear that the cache server reducing the workload from a Web home/central server.

5. Claims 18,39 contain the similar limitations set forth of claim 1. Therefore, claims 18,39 are rejected for the similar rationale set forth in claim 1.

Art Unit: 2142

6. As per claim 2, Yates discloses said query is performed by said local cache server in accordance with a protocol used for communicating between Internet Cache servers [Yates, a local cache server connected to a home/central server via Internet, col 5 line 55-col 6 line 45].

7. As per claim 5, Yates discloses said query is directed by said local cache server to said feeder means, which feeder means as a response returns said reply as inherent feature of the local cache server with a resource manager.

8. As per claim 12, Yates discloses creating an indexed table having an entry for each Internet information file being cached at said central file or home server [Yates, index structure, col 8 lines 5-13].

9. As per claim 13, Yates discloses performing a search in said indexed table for said information file [Yates, search index files col 17 lines 60-67]; and indicating in said reply to said query whether or not said information file was found during said search as inherent feature of search index file.

10. As per claim 14, Yates discloses said querying step comprises using the Structured Query Language (SQL) when querying said central file server for said information file as inherent feature of database.

11. As per claim 15, Yates discloses selecting, based upon an original host name or IP-address of said information file, a central file server out of a set of central file servers [Yates a different home server, col 7 lines 1-8], each server of said set being arranged to cache Internet information files with original host names or IP-addresses within a predefined range [Yates, the request is not permitted to continue on its way to the home server, col 7 lines 35-45]; and querying the selected central file server for said information file [Yates, the request continues to the next router on the path to the home server, col 7 lines 35-45].

12. As per claim 17, Yates discloses retrieving, at said local cache server, said information file from its origin server if said reply to said query indicates that said information file is not cached at said central file server; caching said information file at said local cache server; and updating said central file server by requesting a copy of said information file from said local cache server and caching said copy in said central file server [Yates, updated as necessary by the local cache server, col 7 lines 45-55].

13. As per claim 19, Yates discloses said first means is arranged to operate in accordance with a layer three Internet protocol [Yates, TCP/IP col 9 lines 7-24].

14. As per claim 20, Yates discloses said third means is arranged to use the Structured Query Language (SQL) when querying for said Internet information file as inherent feature of database.

15. As per claims 21,27 Yates discloses said alphanumeric string is included in said request received from said local cache server using said query derived by said second means as inherent feature of cache server.

16. As per claim 24, Yates discloses said Feeder includes fourth means for receiving a query for an Internet information file from said local cache server; and fifth means for providing said local cache server with a reply to the received query as inherent feature of cache server.

17. As per claim 25, Yates discloses said fourth means and said fifth means are arranged to operate in accordance with a protocol used for communicating between Internet cache servers as inherent feature of cache server and TCP/IP.

18. As per claim 30, Yates discloses said Feeder includes a table with a copy of the full index of all Internet information files cached at said-central file server [Yates, search index files col 17 lines 60-67].

19. As per claim 31, Yates discloses said reply to said received query by said fifth means is based on the content of said table [Yates, routing table, col 12 lines 48-53].

20. As per claim 32, Yates discloses requesting means for requesting a copy of an Internet information file stored in a local cache server; and storing means for storing the thereby received copy in a central file-server as inherent feature of cache server.

21. As per claim 33, Yates discloses said requesting means are arranged to request a copy of an information file from its origin server, if a local cache server storing said information file resides behind a firewall (i.e.: router) [Yates, routers, col 6 lines 31-39].

22. As per claim 34, Yates discloses said Updater is arranged to communicate with said Feeder for receiving an order to request said copy of said information file [Yates, updated as necessary by the local cache server, col 7 lines 45-55].

23. As per claims 35,48 Yates discloses said Updater includes a list of known uncachable information files, for which files a copy should not be requested as inherent feature of updated [Yates, updated as necessary by the local cache server, col 7 lines 45-55].

24. As per claim 37, Yates discloses said Updater is implemented by a lower end computer and said central file server is implemented by a higher end computer as inherent feature of updated [Yates, updated as necessary by the local cache server, col 7 lines 45-55].

25. As per claim 38, Yates discloses said Updater and at least one Feeder are implemented by a single lower end computer as inherent feature of updated [Yates, updated as necessary by the local cache server including a resource manager, col 7 lines 45-col 8 line 5].

26. As per claim 40, Yates discloses said feeder means are included in said central cache site or home server [Yates, home server, col 5 line 55-col 6 line 45].

27. As per claim 41, Yates discloses each of said feeder means includes a plurality of Feeders, each of said Feeder interconnecting a subset of said set of local cache servers with said central file server [Yates, a plurality of local cache servers and home server, col 5 line 55-col 6 line 45].

28. As per claim 42, Yates discloses said central cache site is arranged to serve a defined set of local cache servers, which set in turn serves a linguistically and culturally homogenous user community as inherent feature of central DNS cache server [Yates DNS, col 7 lines 8-16].

29. As per claim 44, Yates discloses each of said Feeder includes a table with a copy of the full index of all information files cached at said central cache site as inherent feature of index database.

30. As per claim 45, Yates discloses said central file server includes cached Internet information files having original host names within a predefined range [Yates, router determine the next hop, col 7 lines 45-55].

31. As per claim 46, Yates discloses updater means, interconnecting said central file server with at least one local cache server of said set, for retrieving a copy of an Internet information file from its origin server or from said at least one local cache server and for storing said copy in said central file server [Yates, a plurality of local cache servers and home server, col 5 line 55-col 6 line 45].

32. As per claim 22, Yates discloses said query is derived from said alphanumeric string and at least part of a header information field of said request received from said local cache server using said query derived by said second means as inherent feature of message.

33. As per claim 28, Yates discloses said query derived by said second means is derived from said alphanumeric string and at least part of a header information field of said query received from said local cache server as inherent feature of message..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2142

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

34. Claims 6-11,16,23,29 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yates et al [Yates 6,167,438] in view of Harel [5,873,081].

35. As per claim 10, Yates discloses said file request provides an alphanumerical string associated with said information file, said string being used by said feeder means [Yates corresponding name and address records, col 3 line 55-col 6 line 2]. However Yates does not teach deriving a query number corresponding to said information file.

A skilled artisan would have motivation to improve the query process on Yates system and found Harel's teaching. Harel, in a method and mechanism for filtering incoming electronic document against user queries, taught a filtering process including a matching list containing term and query identifiers (or query number) which associated to the document delivery [Harel col 11 lines 15-33]

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporated the query identifiers or query number associated to the delivery file as taught by Harel into the Yates's apparatus in order to utilize the database query. Doing so would provide a quick and easy for searching and filtering data over a large system.

36. As per claim 6, Yates-Harel disclose deriving, at said feeder means, a query number corresponding to said information file being concerned in said query [Harel col 11 lines 15-33].

37. As per claim 7, Yates-Harel disclose using the derived query number when querying said central file server for said information file [query identifier, Harel col 11 lines 15-33].

38. As per claim 8, Yates-Harel disclose said query provides an alphanumeric string associated with said information file, said string being used in said step of deriving said query number [query identifier, Harel col 11 lines 15-33].

39. As per claims 9 and 11, Yates-Harel disclose said alphanumeric string is a Uniform Resource Locator (URL), said query number is derived from said URL and at least part of a header information field of said file request [query identifier, Harel col 11 lines 15-33].

40. As per claim 16, Yates-Harel disclose selecting, based upon said query number derived for said information file [query identifier, Harel col 11 lines 15-33], a central file server out of a set of central file servers, each server of said set being arranged to cache Internet information files with corresponding query numbers within a predefined range [prefetcher means, Yates col 2 lines 42-50]; and querying the selected central file server for said information file as inherent feature of accessing data to one DNS server.

41. As per claims 23 and 29, Yates-Harel disclose said query comprises a query number [query identifier, Harel col 11 lines 15-33], the query number being derived by applying a hash algorithm to said string and to said part of said header information field as inherent feature of hash coding [Yates col 5 line 48-col 6 line 30].

42. As per claim 36, Yates-Harel disclose said Feeder is implemented by a lower end computer and said central file server is implemented by a higher end computer as inherent feature of server computers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

43. Claims 3-4,26,43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yates [6,016,512] in view of Wessels et al [Cache Digest, April 1998].

44. As per claims 3 and 4, Yates discloses an Internet environment wherein a client request information to a home/central server and a plurality of local cache server [Yates, a local cache server connected to a home/central server via Internet, col 5 line 55-col 6 line 45].

However Yates does not explicitly detail a protocol used is the Internet Cache Protocol or Cache Digest. It is well-known in the art that Internet Cache protocol (ICP)

Art Unit: 2142

or Cache Digest was used among Web cache server to improve the exchange queries and replies [Wessels, abstract, page 1].

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to realize that using the ICP or Cache Digest would provide the cache knows whether or not the neighbor holds the requested data. Doing so would enhance the data flow process between Web client nodes, local cache servers and home/central servers over the large network.

45. Claims 26,43 contain the similar limitations set forth of claims 3-4. Therefore, claims 26,43 are rejected for the similar rationale set forth in claims 3-4.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire ~~THREE MONTHS~~ from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thong Vu, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 8:00AM- 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Harvey*, can be reached at (571) 272-3896. The fax number for the organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIRI system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thong Vu
Patent Examiner
Art Unit 2142

